Final Report • April 2000

DRAFT ENVIRONMENTAL ASSESSMENT NATIONAL WEATHER SERVICE WEATHER FORECAST OFFICE TO SERVE THE CARIBOU, MAINE, AREA

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Envirotechnical Program

SRI Project 10302

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Prepared for:

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National Weather Service
Facilities Management Group
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Silver Spring, Maryland 20910-3233

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ILLUSTRATIONS

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ABBREVIATIONS

A	ampere
ACM	asbestos containing material
ASOS	Automated Surface Observation System
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
AWIPS	Advanced Weather Interactive Processing System
CFR	Code of Federal Regulations
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CMR	Code of Maine Regulations
CUD	Caribou Utilities District
DEP	Department of Environmental Protection
EA	Environmental Assessment
EDDA	Environmental Due Diligence Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FAR	Federal Aviation Regulations
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
kVA	kilovolt-Ampere
kW	kilowatt
LBP	lead-based paint
LOS	level-of-service
MSL	mean sea level
NAO	NOAA Administrative Order
NEPA	National Environmental Policy Act
NEXRAD	Next Generation Weather Radar
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
ppb	parts per billion
ppm	parts per million
SPCC	Spill Prevention, Control and Countermeasures
sq. ft	square foot (feet)

ABBREVIATIONS (Concluded)

UAF	upper air facility
UHF	ultra-high frequency
UST	underground storage tank
V	volt
WFO	Weather Forecast Office

1 INTRODUCTION AND BACKGROUND

This Environmental Assessment (EA) is prepared based on Council on Environmental Quality (CEQ) Regulations on implementing National Environmental Policy Act (NEPA) procedures (40 CFR 1500–1508) and National Oceanic and Atmospheric Administration (NOAA) Administrative Order (NAO) 216-6, *Environmental Review Procedures for Implementing the NEPA*, dated May 20, 1999. This report evaluates the potential for the preferred and alternative actions to result in significant environmental effects and identifies measures that will mitigate identified environmental consequences. If it is determined that implementation of the proposed action may result in a significant environmental impact, a site-specific environmental impact statement (EIS) could be required.

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2 PURPOSE AND NEED

NOAA, within the U.S. Department of Commerce, proposes to construct and operate a new National Weather Service (NWS) Weather Forecast Office (WFO) to serve northern Maine. Since 1967, the NWS has performed weather forecasting and issued warnings from its WFO located in the southeast corner of Caribou Municipal Airport in Caribou, Maine. This WFO building and a temporary office structure adjacent to it are considered by NOAA to be inadequate to support future weather forecasting functions for this area. Various weather forecasting office functions must share workstations, display panels, and other resources. Added functional space is required to accommodate staff, equipment, storage requirements, and public access.

NOAA proposes to build a new WFO building in the vicinity of the existing building. The proposed WFO will fully support existing and planned NWS personnel and data processing and display equipment required to meet its forecast and warning mission. This equipment will include computers and display terminals for data received from the Next Generation Weather Radar (NEXRAD) facility in Hodgdon (Aroostook County), Maine. The proposed WFO will utilize sustainable building design concepts to provide energy and space efficiency, and worker comfort.

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3 PREFERRED AND ALTERNATIVE ACTIONS

3.1 BUILD ON AIRPORT LAND ADJACENT TO THE WFO (PREFERRED ACTION)

Under this option, NOAA would construct a new WFO on property at and adjacent to its existing WFO at Caribou Municipal Airport. This would be done by either 1) entering into a no-cost lease with the city of Caribou, or 2) acquiring the property as a donation at no cost. This is the preferred action by NOAA and is further described in Section 4. The 30-year net present cost estimate for this alternative is $926,000 (NOAA, 1999).

An analysis of environmental conditions and anticipated consequences under the preferred alternative is discussed in Sections 5 and 6, respectively.

3.2 PURCHASE LAND OFF THE AIRPORT

To accommodate a new WFO building off of airport property, a one-acre site would be required. The operation, monitoring and maintenance of atmospheric instruments, including the upper air facility (UAF) building, would remain at the airport. This action would require that NOAA purchase property and obtain all necessary utility connections. It is expected that suitable property is available; however, direct access by aviators to weather briefings and information available at the WFO would be reduced. The cost estimate for the 30-year net present value under this alternative is $2,137,000 (NOAA, 1999).

Additional environmental effects and engineering costs could occur for properties located in potentially sensitive natural resource areas or on steep slopes. Sensitive resource areas include prime farmland habitat for protected species, flood prone areas, wetlands, and culturally significant properties, among others. However, assuming these areas could be avoided, no significant environmental impacts are expected to result under this alternative.

3.3 LEASE OFFICE SPACE OFF THE AIRPORT

Under this option, NOAA would acquire an assignable option for sufficient office space not located on the airport and negotiate a competitive 20-year lease agreement to accommodate the functions of the WFO. This alternative assumes that the NWS would continue to use the existing UAF and travel between the WFO and UAF twice each day to conduct balloon launches. Direct access by aviators to weather briefings and information available at the WFO would be reduced. The 30-year net present value cost estimate for this alternative is $2,360,000 (NOAA, 1999).

This option assumes that office space is currently available that will meet NWS' needs and can be obtained under a 20-year lease. Depending on the location, the 24-hour operation of the WFO may present an impact to adjacent tenants such as increased traffic and noise. Also, direct access by aviators to weather briefings and information available at the WFO would be reduced. No significant environmental impacts are expected to result under this alternative.

3.4 RENOVATE THE EXISTING WFO BUILDING

The existing office, built in 1967, is made of brick and is linked to a trailer used for temporary office and conference room space. Substantial repair and renovation to the WFO would be required since it represents only 30 percent of the office space required by NWS. Materials within the structure would need to be altered or replaced, such as various windowpanes, standard doors and handicapped access, restrooms, heating and air conditioning units, and office room sizes. The level of renovation is likely to be cost prohibitive.

Temporary disruption of NWS normal business activities would result due to the renovation. The adjacent environment would essentially be unchanged. No significant environmental impacts are expected to result under this alternative. Due to the scope and cost, this is the least preferred option.

3.5 NO-PROJECT ALTERNATIVE

The NWS would continue to operate its WFO at Caribou Municipal Airport. The trailer space would also be retained for indefinite use as office and conference room space. No increase in staff or new equipment would be possible without adding temporary office space. Efficiencies in the form of work productivity and timely dissemination of data may be adversely affected. The potential indirect effects of not expanding the capacity of office and equipment space are not known, but could affect some weather-dependant activities some time in the future.

The existing environment would essentially be unchanged. No direct significant environmental impacts are expected to result under this alternative.

4 PROPOSED ACTION

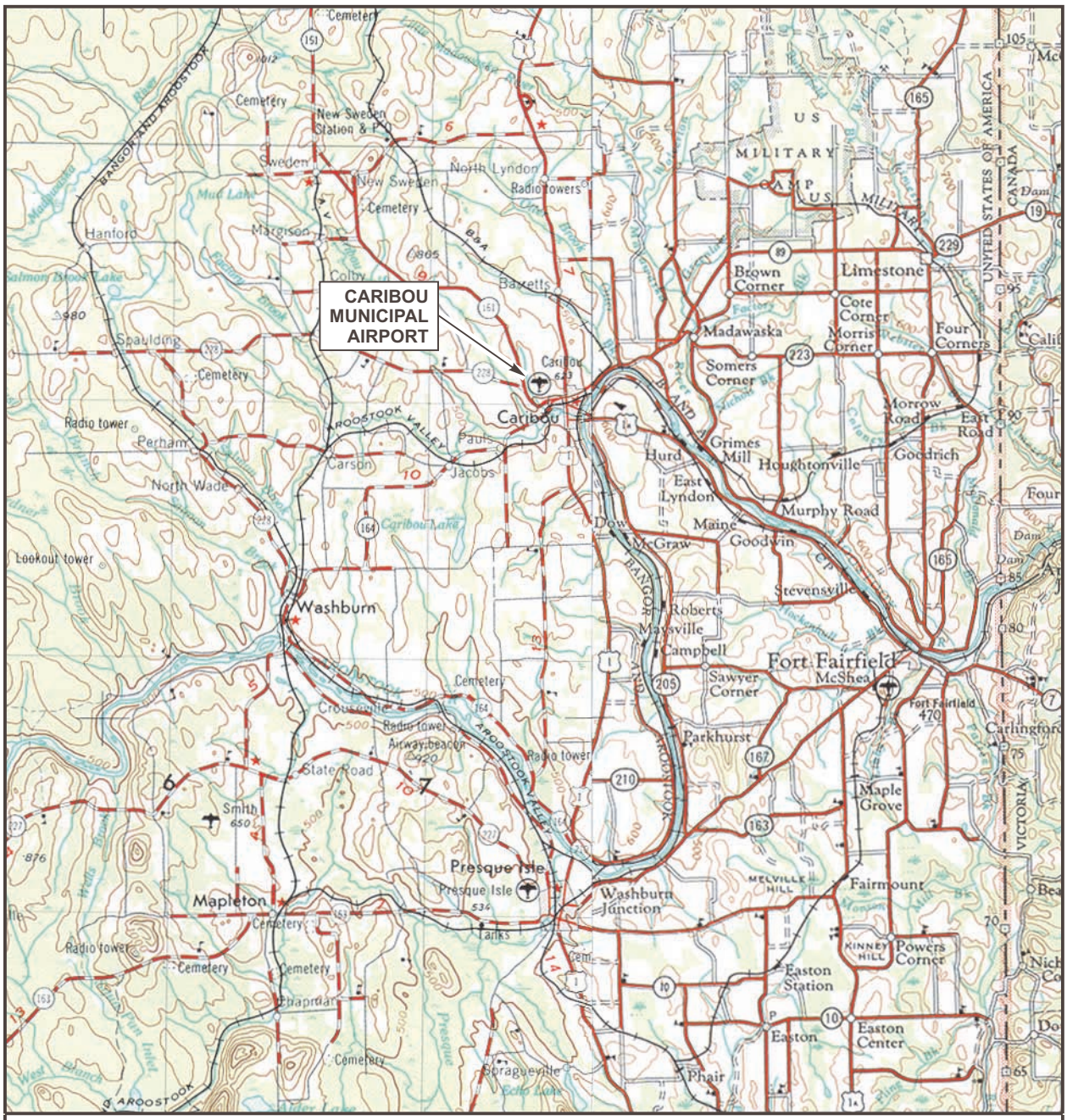
4.1 PROPOSED ACTION AND PROJECT LOCATION

NOAA proposes to construct and operate an NWS WFO at Caribou Municipal Airport (see Figure 1(a)). The new WFO building would be located adjacent to the current WFO at 810 North Main Street in Caribou, Maine (see Figure 1(b)). Providing weather forecasts and severe weather warnings for the northern and eastern portion of the state of Maine, the WFO operates 24 hours per day, seven days per week. The proposed single-story WFO with a basement will provide improved working conditions for a planned maximum of 22 NWS employees (13 during the day shift) and house advanced data-processing and display equipment added in recent months to support various weather monitoring functions.

NOAA's preferred action would require the removal of two structures and the construction of a new 6,000 square foot (sq. ft) WFO building on an approximately 4.6-acre area of Caribou Municipal Airport. A conceptual site layout including parking area is shown in Figure 2. The new building will utilize sustainable architecture and building design concepts. An architectural rendering being considered by NOAA is shown in Figure 3. The WFO would contain the following rooms and facilities:

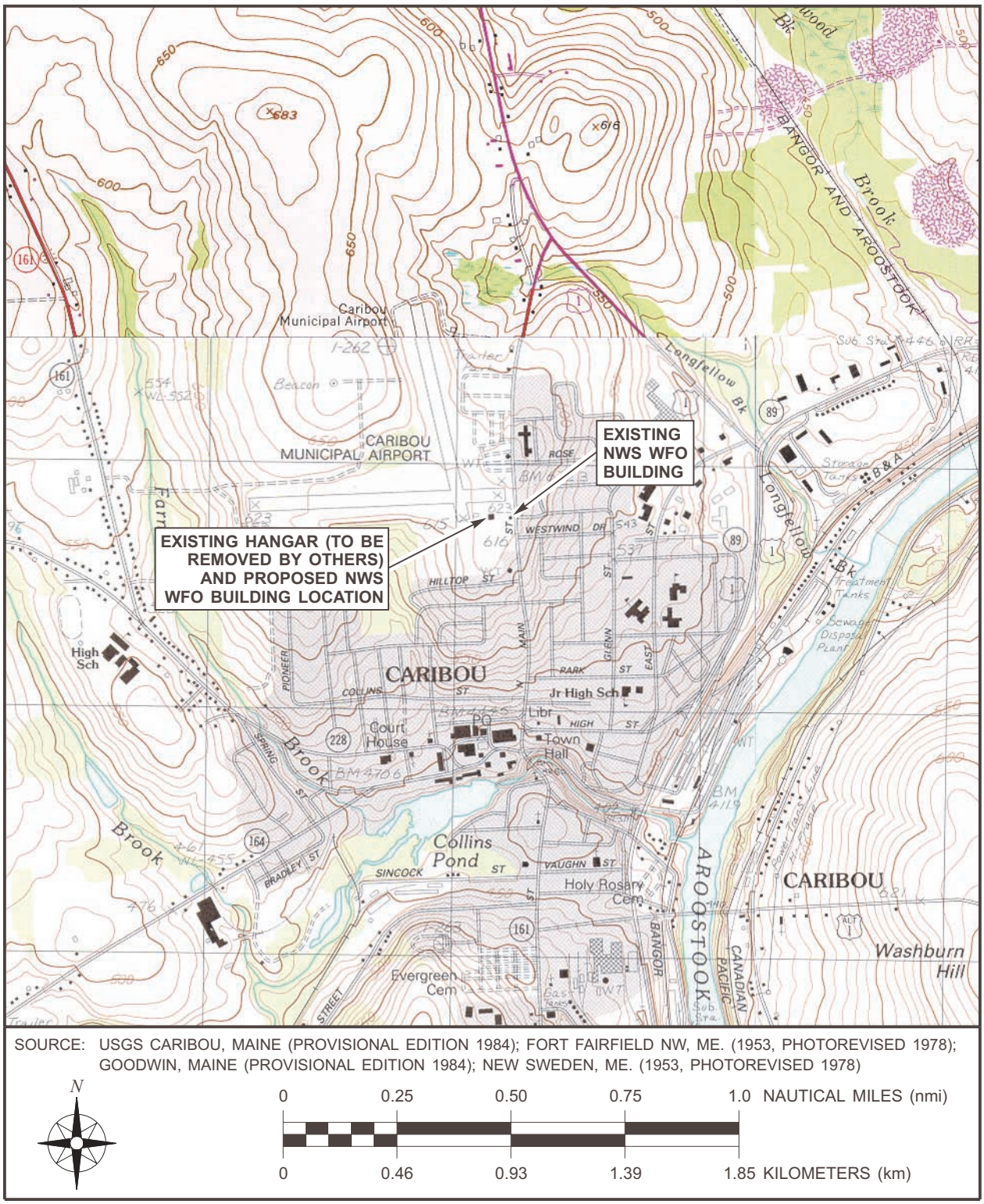
- Five single-occupant offices (one 173 sq. ft and four 145 sq. ft)
- One conference/multipurpose room (353 sq. ft)
- One electronics technician room (500 sq. ft)
- One operations room (1,172 sq. ft)
- One equipment/communications room (1,201 sq. ft)
- One kitchen and dining room (183 sq. ft)
- One garage for vehicles and/or snowmobiles (400 sq. ft)
- One generator room to house the back-up power generator (200 sq. ft)
- One men's bathroom and one women's bathroom, separate shower, and janitorial room (220 sq. ft)
- Several storage rooms, closets, and a file/copy area
- 25 employee and visitor parking spaces.

This action requires the removal of the existing hangar building by the city of Caribou, and the WFO and related infrastructure (including bituminous asphalt areas used for automobile and aircraft parking) by NOAA. The city will remove its existing hangar building and complete the installation of a new hangar building and fueling facilities within the northern portion of the airport. Several existing shelters and equipment will remain in place and continue to be used—the NWS UAF containing a balloon inflation building and launch area, and two instrument/antenna plots.



(a) EXISTING AND PROPOSED FACILITIES — 1:250,000 SCALE

FIGURE 1 SITE LOCATION PLAN — EXISTING AND PROPOSED WEATHER FORECAST OFFICE LOCATIONS AT CARIBOU MUNICIPAL AIRPORT, CARIBOU, MAINE



(b) EXISTING AND PROPOSED FACILITIES — 1:24,000 SCALE

FIGURE 1 SITE LOCATION PLAN — EXISTING AND PROPOSED WEATHER FORECAST OFFICE LOCATIONS AT CARIBOU MUNICIPAL AIRPORT, CARIBOU, MAINE

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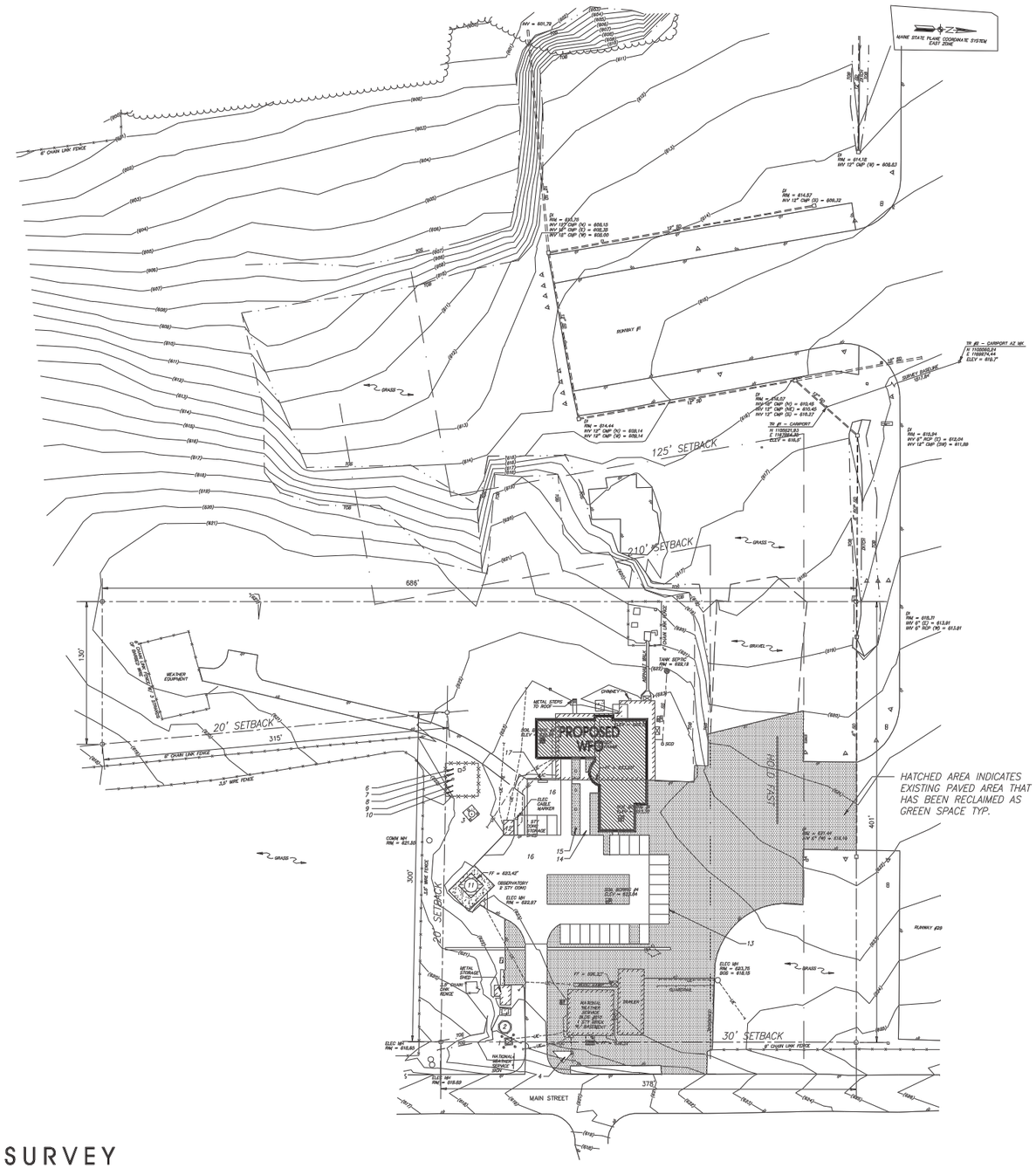

LEGEND

MAJOR CONTOUR	(620)
MINOR CONTOUR	(621)
BUILDING	
BITUMINOUS PAVEMENT	
CONCRETE PAVEMENT	
STORM DRAIN (SD)	12" SD
SANITARY SEWER	SS
DITCH/SWALE/EDGE OF WATER	
TOP OF BANK	TOB
TOE OF SLOPE	TOS
UNDERGROUND COMMUNICATION	UC
UNDERGROUND ELECTRIC	UE
FENCE	
GUARDRAIL	
HEDGE/EDGE OF WOODS	
SIGN	
BOLLARD	
FLAG POLE	
COMMUNICATION MANHOLE	COMM MH
SATTELITE DISH	
RUNWAY/FLOOD LIGHT	
ELECTRC HANDHOLE	
ELECTRICAL MANHOLE	ELEC MH
ELECTRICAL TRANSFORMER	
SANITARY CLEAN OUT	SCO
SEPTIC TANK	
DROP INLET	DI
SOIL BORING	
BOTTOM OF STRUCTURE	BOS
FINISHED FLOOR ELEVATION	FF = 623.55'

SURVEY NOTES:

1. TOPOGRAPHIC SURVEY PREPARED BY GLENN & SADLER ASSOCIATES, INC., FROM FIELD DATA COLLECTED IN NOVEMBER 1999.
2. THIS SURVEY DOES NOT GUARANTEE THE EXISTENCE OR NONEXISTENCE, SIZE, TYPE, DEPTH, MATERIAL OR LOCATION OF ANY UNDERGROUND UTILITIES. ALL UTILITIES SHOWN ARE BASED ON ABOVEGROUND UTILITY STRUCTURES, AVAILABLE UTILITY MAPS AND SITE PLANS. THE CONTRACTOR SHALL HAVE ALL EXISTING SITE UTILITIES VERIFIED PRIOR TO ANY EXCAVATION.
3. ELEVATIONS SHOWN HEREON ARE IN FEET AND REFER TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988. ELEVATIONS WERE ESTABLISHED FROM THE PRIMARY AIRPORT CONTROL STATION "CARIPORT", (ELEVATION = 616.5').
4. HORIZONTAL COORDINATES SHOWN HEREON ARE IN FEET AND REFER TO THE MAINE STATE PLANE COORDINATE SYSTEM (EAST ZONE 1801), NAD 83, 1996 ADJ.

LEGEND

1. EXIST TRANSFORMER 150 KVA 277V/480V
2. EXIST DOBSON SPECTROMETER
3. SGS ANTENNA
4. ENTRANCE SIGN AND FLAGPOLE
5. EXIST EVAPORATION PAN
6. EXIST 8" RAIN MONITOR
7. EXIST TIPPING BUCKET GUAGE
8. EXIST UNIVERSAL WEIGHING GUAGE
9. EXIST SOIL TEMPERATURE GUAGE
10. EXIST ACID RAIN MONITOR
11. EXIST UPPER AIR INFLATION BUILDING
12. EXIST RUNWAY LIGHTING VAULT
13. ELEC RECEPTACLE LOCATED AT EACH PARKING SPACE FOR SEVERE WEATHER
14. ENTRY WALK
15. EXTERIOR LIGHTS TYP
16. EXISTING PAVING
17. BIKE RACK

NOTE:
APROXIMATE SIZE OF SITE
4.3 ACRES

SITE SURVEY

GRAPHIC SCALE:

0' 50' 100' 150' 200' 250'

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Norfolk · Virginia · USA
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NOAA NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION U.S. DEPARTMENT OF COMMERCE

FINAL CONCEPT

NATIONAL WEATHER SERVICE
CARIBOU, MAINE

WEATHER FORECAST OFFICE - CONCEPTUAL DESIGN
SITE SURVEY

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FIGURE 2 CONCEPTUAL SITE LAYOUT — PROPOSED WEATHER FORECAST OFFICE AT CARIBOU MUNICIPAL AIRPORT

FIGURE 2

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FIGURE 3 ARCHITECTURAL RENDERING OF WEATHER FORECAST OFFICE (UNDER CONSIDERATION)

Neither of the two airport runways at Caribou Municipal Airport will be affected. The location and height of new structures will be separated sufficiently from the runway centerlines, in compliance with Federal Aviation Regulation (FAR) Part 77.25, Civil Airport Imaginary Surfaces.

After removing the existing structures, paved areas, and abandoned infrastructure, clearing and excavation will occur within the construction area. Grading will occur and additional fill material will be added for building and shelter foundations. In conformance with the project's sustainable design goal, the preferred action situates the proposed WFO at a location that reduces site disruption and allows for reclaiming of paved areas and visual access to natural landscapes to the west and north.

Significant quantities of fill material should not be required. Construction-grade fill material is available from several local sources. Building and asphalt debris that do not contain hazardous substances will be removed to a landfill. Construction workers, vehicles and equipment will be present during each phase of site development. Less than 20 construction workers are required during any one phase of the six-month construction period.

The project includes various sustainable design objectives with goals divided among several categories: site impact, indoor environment, energy efficiency, materials, indoor air quality, water conservation and recycling/waste management. The proposed WFO is scheduled for completion in October 2002.

4.2 OWNERSHIP AND AVAILABILITY

The preferred project location is found on Caribou Tax Map 10 in the southeast corner of Lot 50 and the northeast corner of Lot 51. The subject property is owned by the city of Caribou and is available to the federal government via a no-cost lease.

4.3 PROPERTY SIZE, TOPOGRAPHY, AND GEOGRAPHIC COORDINATES

The preferred site is a roughly 400 ft × 500 ft rectangle (4.6 acres). The nearly level site is located atop a broad ridge that generally divides low-lying areas to the east and west. The southern and eastern edges of the property slope slightly downward. The site elevation is 623 ft above mean sea level (MSL). The geographic coordinates are 46° 52' 06" N and 68° 00' 45" W (*North American Datum,*1983).

4.4 PRESENT USE

The preferred site and vicinity is used for aviation-related activities (see Figure 4). The eastern and southern portions of the site are used by the NWS for its WFO, UAF, staff and visitor parking, and plots for weather monitoring equipment. The WFO accommodates 22 employees; 13 during the day shift and nine during the evening shift (4 P.M. until 8 A.M.). Adjacent areas are either residential or undeveloped land owned by the city of Caribou.

The western portion of the property is leased to Mr. Larry Jarret for aviation services such as repair of civil aviation aircraft (airframe and power plants), chartering flights, and conducting flying

FIGURE 4 PHOTOGRAPH — PROPOSED WEATHER FORECAST OFFICE PROJECT AREA AND VICINITY

lessons. A 5,800-sq.-ft hangar is owned by the city of Caribou and used by Mr. Jarret for aircraft repair, equipment and material storage, and office space. An asphalt area for temporary aircraft parking is located between the WFO and hangar buildings. A 10,000-gallon underground fuel tank and pump for aircraft fueling was removed from the property in fall 1999.

4.5 FUTURE DEVELOPMENT PLANS

All development at the 134-acre Caribou Municipal Airport is under the control of the city of Caribou. No Airport Master Plan is available; however, the city plans to remove the hangar building at the subject site once a replacement hangar and aircraft fueling station are completed approximately 2,000 ft north. The subject site is tentatively set aside for aviation-related uses such as the proposed WFO. The proposed action would provide work areas for up to 22 staff members. Installation of a WFO would not alter the length of existing runways or the type of aircraft using the airport.

5 AFFECTED ENVIRONMENT

5.1 PROPERTY

The subject property has been previously graded and developed for the NWS and other aviation-related operations, including aircraft fueling and repair, and temporary parking of vehicles and aircraft. A land survey is shown in Figure 5. A 1,600-sq.-ft brick WFO built in 1967, with temporary trailer addition, is currently used by the NWS on land leased from the city of Caribou (see Figure 6). A UAF building and several plots for weather monitoring and other equipment and infrastructure used by the NWS are also present.

A 5,800-sq.-ft wood frame hangar built in the early 1940s is also present on an adjacent area owned and operated by the airport (see Figure 7). Asphalt parking/driveways and lawn are located between and around these facilities. Runways 11-29 and 01-19 are located 260 ft north and 340 ft west of the hangar building, respectively. Both the airport hangar and NWS WFO contain asbestos materials and possibly lead-based paints (see Section 6.1.14).

In October 1999, a 10,000-gallon double-walled underground storage tank (UST) used to hold aviation gasoline was removed from a location immediately north of the hangar building. No evidence of aviation gasoline release to the environment from that UST was detected. However, in September 1992, three USTs used for the same purpose were removed from the same location. One of these, a 4,500-gallon UST is suspected of leaking aviation gasoline to the environment. Contaminated soil identified at that time was removed from the site per state requirements (see Section 6.1.14). Another 500-gallon UST formerly located just south of the WFO is also suspected of releasing oil product into the environment; however, all soil down to bedrock was also extracted at the time of the tank removal. This area was backfilled with clean material, also according to state guidelines.

5.2 ROADS

The subject property is accessed via a paved driveway connecting to North Main Street, a two-lane asphalt road oriented north–south. Parking is available for visitors, NWS staff and clients/operators using the hangar building.

The existing driveway would be removed and the area graded. A paved driveway linking North Main Street and the planned WFO parking area would be installed. The driveway will be roughly 25 ft wide and less than 200 ft long. Except for the proposed parking layout, no other road improvements are planned.

5.3 WATER SUPPLY

A water well is present on-site. Groundwater obtained from the well is contaminated due to leaking underground fuel storage tanks formerly located on or near the property. The hangar

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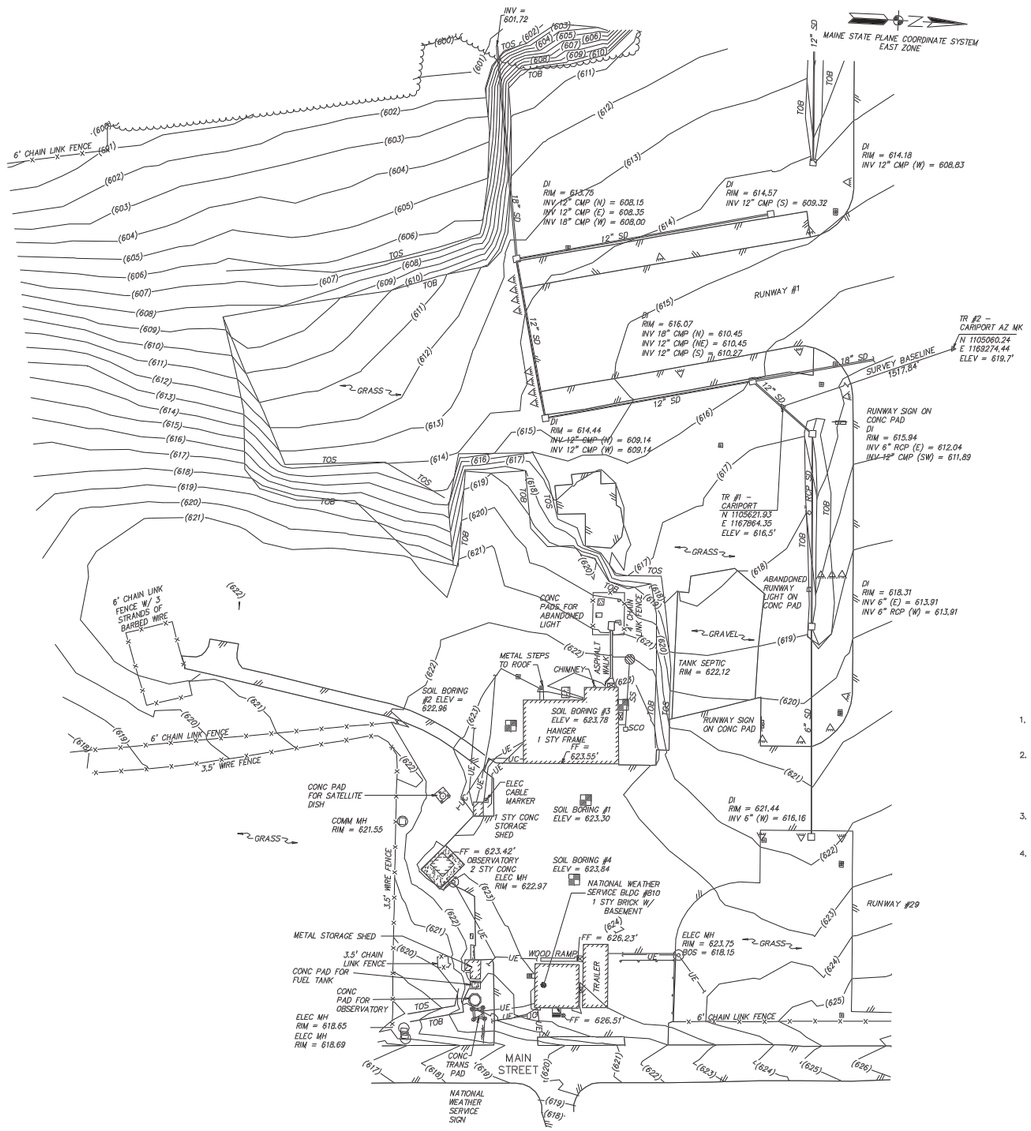

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UNDERGROUND COMMUNICATION	UC
UNDERGROUND ELECTRIC	UE
FENCE	
GUARDRAIL	
HEDGE/EDGE OF WOODS	
SIGN	
BOLLARD	
FLAG POLE	
COMMUNICATION MANHOLE	COMM MH
SATTELITE DISH	
RUNWAY/FLOOD LIGHT	
ELECTRIC HANDHOLE	
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MAINE STATE PLANE COORDINATE SYSTEM EAST ZONE

SITE SURVEY

GRAPHIC SCALE:

0' 50' 100' 150' 200' 250'

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NOAA — NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION — U.S. DEPARTMENT OF COMMERCE

FINAL CONCEPT

NATIONAL WEATHER SERVICE
CARIBOU, MAINE
WEATHER FORECAST OFFICE - CONCEPTUAL DESIGN
SITE SURVEY

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FIGURE 5 LAND SURVEY — WEATHER FORECAST OFFICE TO SERVE THE CARIBOU, MAINE, AREA

FIGURE 5

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FIGURE 6(a) PHOTOGRAPH — EXISTING WEATHER FORECAST OFFICE BUILDING (LOOKING NORTHWEST)

FIGURE 6(b) PHOTOGRAPH — EXISTING WEATHER FORECAST OFFICE BUILDING (LOOKING NORTHEAST)

FIGURE 7(a) PHOTOGRAPH — EXISTING HANGAR BUILDING AT CARIBOU MUNICIPAL AIRPORT (LOOKING WEST)

FIGURE 7(b) PHOTOGRAPH — EXISTING HANGAR BUILDING AT CARIBOU MUNICIPAL AIRPORT (LOOKING SOUTHWEST)

accesses water from the well for non-potable sanitary (bathroom) uses and only rarely for washing airplanes on pavement.

The WFO is connected to city water provided by the Caribou Utilities District's (CUD) municipal public water system main line buried 50 ft east of the site beneath North Main Street. The proposed WFO would use water provided by the CUD. A line connecting the WFO to a water main located beneath North Main Street would be installed.

5.4 WASTEWATER DISPOSAL

An on-site septic system and leach field provides wastewater disposal for the hangar building. Aviation gasoline has been found in groundwater and may be present in the leach field area. The WFO is connected to the CUD municipal sewer system main line located on North Main Street.

All wastewater generated at the proposed WFO will be connected to buried public sewer lines located beneath North Main Street. The existing septic system and leach field would be emptied and removed according to the Maine Subsurface Waste Water Disposal Rules (144A CMR 241).

5.5 PRIMARY AND STANDBY ELECTRIC POWER

An underground 3-phase (150 kVA, 277 V/480 A) power line is metered at a terminal located in the southwest corner of the WFO property. An underground extension beneath the WFO driveway connects to the WFO fuse box. Space heat is provided by an oil-fired heating unit located in the WFO basement.

The proposed WFO will connect to the 3-phase power line buried along the west side of North Main Street. In addition, a 175-kilowatt (kW) standby generator and shelter would be installed adjacent to the WFO to provide continuous electricity should primary power fail (Tim Ballard, personal communication, October 1999).

5.6 COMMUNICATIONS

Bell Atlantic Telephone Company provides voice and data transmission service to the WFO via underground lines. Other communication equipment includes transmitters and antennas for the Automated Surface Observation System (ASOS), Advanced Weather Interactive Processing System (AWIPS), and NOAA weather radio ultra-high frequency (UHF) broadcasting.

Underground telephone service along North Main Street will be routed to the proposed WFO. The precise route is not known, but is expected to be less than 200 linear feet. NWS broadcasts of weather information would not be altered; however, transmit antennas may be placed on existing or proposed structures. Since contaminated soil at the site has been removed and underground utility corridors will not be placed in the groundwater aquifer, no contact with contaminated soil or groundwater would result.

5.7 NATURAL RESOURCES

Various natural resources will be extracted and used for construction and operation of the proposed WFO. Modest quantities of construction-grade sand and gravel would be obtained from local quarries. Other natural resources will be used for building and landscaping materials. The sustainable building design proposed by the NWS will minimize the amounts of materials, energy, water and fuels required from natural resources.

6 ENVIRONMENTAL CONSEQUENCES

This portion of the report considers site-specific environmental consequences, both short-term and long-term. Short-term effects are those caused by WFO construction or related activities that are temporary in nature; long-term effects are those resulting from the use of the WFO, including parking, utilities, instruments, and forecast service. Methods to mitigate any short-term or long-term effects identified are outlined in Section 5.2, below

6.1 POTENTIAL IMPACT ON EXISTING ENVIRONMENTAL CONDITIONS

6.1.1 Geology and Mineral Resources

Bedrock in the area belongs to the Cary Mills Formation, consisting of thinly interbedded limestone and shale of Ordovician age (435 to 500 million years ago) which is overlain by a thin deposit of Quaternary till left by retreating glaciers during the last ice age (Geotechnical Specialties, Inc., 1999). Hence, the primary geologic unit at the surface of the preferred site is till, a heterogeneous mixture of sand, silt, clay and stone (Maine Department of Conservation, 1989). The Caribou area is in Seismic Zone 1, minor damage (International Conference of Building Officials, 1997).

Soils are identified as Madeland (Md), a miscellaneous land type consisting of a mixture of soil material, and Caribou Gravelly Loam (CgB), 2 to 8 percent slopes (Natural Resource Conservation Service, 1958). These soils consist of 3–5 ft of well-drained silty glacial till over vertically bedded and shattered limestone and shale bedrock. Shaly fragments occur throughout the soil and the depth to the seasonally high water table is more than 5 ft. No geologically significant resources are present

The airport is located on a plateau ranging in elevation from about 550 to 680 ft MSL. Overall the plateau slopes upward to the north; the project area is relatively flat, but slopes downward to the south at its most southern extent. No sign of soil erosion or geologic instability are evident at the site. No borrow pits or mining activities occur in the immediate area. No effects on the extraction or availability of mineral resources is expected to occur due to the proposed project.

6.1.2 Water Resources

The nearest surface water bodies are Collins Pond and Caribou Stream, located approximately 3,400 ft south, and Longfellow Brook located approximately 3,300 ft northeast, each outlet to the Aroostook River. To the west of the subject property is a small ditch that collects water from an airport runway drainage system and runs to the south. Northern Maine is a mild summer, cold winter climate with an average annual precipitation at Caribou of 37 inches of rainfall

and 110 inches of snowfall per year. Precipitation occurs throughout the year, although heaviest between November and April.

The subject property is near the top of a north–south ridge at the boundary of two major surface water drainage basins. The ridgeline slopes downward toward the south. The ridge diverts surface water flow at the eastern portion of the property toward the southeast, and flows on the western portion to the southwest. Original drainage patterns at the site were altered during construction of runways in the 1930s. Currently, site runoff is generally southward into a man-made grassy area between North Main Street and the runway. Surface water runoff rapidly infiltrates into the ground or follows established man-made drainage patterns.

The property is not located on a sand or gravel aquifer according to the Significant Sand and Gravel Aquifer Map 77 (Maine Department of Conservation, 1989). Perched groundwater may occur at shallower depths in small discontinuous lenses. The flow direction of groundwater is generally south. The aquifer underlying the eastern half of the airport, including the preferred site, is contaminated and unusable. A 4,500-gallon tank formerly at the property was leaking aviation fuel; it is the only suspected source of petroleum contamination found in soil and groundwater (see Section 6.1.14). Soils found to be contaminated were removed, and groundwater is no longer the sole source of potable water. The public water system is a reliable source of potable water and is available adjacent to other properties along North Main Street; hence, no further use of well water is necessary. Excavation and use of the property will not affect this condition.

Construction activities will remove structures, asphalt and vegetation, primarily lawn, from the majority of the project area. The net change in impervious surfaces is expected to be less than 30 percent (approximately 1.5 acres). The majority of the site is essentially flat except for sloped areas at the southern edge of the project area. Soil erosion is not expected to result. However, due to the amount of grading required, sheet or overland flows may cause sediment to be carried off-site. Appropriate temporary erosion control measures should be implemented during construction. These measures include the use of synthetic fiber silt fences (Maine Department of Environmental Protection, 1991). After construction, denuded areas should be covered with gravel or bark material or re-vegetated with native grasses.

Post-construction storm runoff will either flow overland to adjacent grassy areas or will be routed via established drainage patterns along the runway to the west or North Main Street to the east. No significant change in the existing amount of impervious area drainage pattern, or runoff rates would result.

A 660-gallon aboveground diesel fuel tank will be installed adjacent to the generator room for the 175-kW standby generator. Secondary containment will be provided to prevent accidental release of fuel to the environment.

No significant impacts to water resources would result due to implementation of the proposed action.

6.1.3 Hydrological Processes (Flooding, Erosion, and Sedimentation)

According to the Federal Emergency Management Agency (FEMA), the subject property is located on a ridge and is not within the 100-year floodplain (FEMA, 1980). There is no evidence of severe soil erosion or sedimentation occurring at the site (see Water Resources, above). The proposed design is expected to result in an overall net decrease in paved area, reclaiming some paved areas and converting them to green space. No trees will be taken, although tree planting may occur in landscaped areas. Significant impacts to hydrological processes are not expected to result.

6.1.4 Air Quality

Construction equipment and activities would create minor amounts of dust and diesel exhaust during the approximately 8-month construction period which could have a short-term impact on nearby airport facilities. During periods of extremely low rainfall fine silt may become airborne during construction activities. Under these conditions, dust suppression measures such as watering should be employed. The only direct long-term effect on air quality would be the exhaust from the 175-kW standby generator, which would operate only occasionally. Impacts on air quality would be negligible.

6.1.5 Flora and Fauna

The proposed project area consists of structures or asphalt and lawn ground surfaces. About one acre of lawn will be removed to allow for construction of the WFO. After construction, lawn will remain east and west of the WFO. Based on an on-site inspection of the property, no natural areas are present at or near the area of potential effect. Rare or exemplary botanical features are not present. Confirmation of this determination has been received from the Maine Department of Conservation, Natural Resources Information and Mapping Center for botanical resources. There are no rare botanical features documented specifically within the project area (Emily M. Chase, personal communication, August 1999; also see Appendix).

Regarding zoological features, no significant habitat is present within the project's area of potential effect. No impact to state or federally protected species would result. The Maine Department of Inland Fisheries and Wildlife has considered the proposed project relative to state rare, threatened, or endangered wildlife species. After a review of their database, no significant wildlife habitats or species are known to occur in the proximity of the proposed project; no significant wildlife impacts are expected to result (Arlen Lovewell, personal communication, August 1999; also see Appendix).

Concerning species protected under the federal Endangered Species Act (ESA), the U.S. Fish and Wildlife Service, Maine Field Office, has determined (Log Number 99-0048) that no species under their jurisdiction are known to occur in the project area, except for transient bald eagles (*Haliaeetus leucocephalus*) and peregrine falcons (*Falco peregrinus*). No further action is required by NOAA under Section 7 of the ESA, unless: (1) new information reveals impacts of the proposed action may affect listed species or critical habitat in a manner not previously considered; (2) the action is subsequently modified in a manner that was not previously considered; or (3) a new

species is listed or critical habitat determined that may be affected by the proposed action (Kim Tripp, personal communication, September 1999; also see Appendix).

No significant impacts to flora or fauna would result from the proposed action.

6.1.6 Environmentally Sensitive Areas (Wetlands and Floodplains)

The subject site is not within the 100-year floodplain (FEMA, 1980). Based on on-site observations, no indicators of wetlands, such as seasonally standing water, hydrophyllic vegetation or hydric soils, are present. A review of the National Wetlands Inventory containing the subject project indicates that no jurisdictional wetlands have been mapped at this location. No impacts to ecologically sensitive resources are expected (U.S. Department of the Interior, 1995).

6.1.7 Noise

Because the site is at a general aviation airport, aircraft noise is the primary factor affecting ambient noise levels. No impact to existing aircraft takeoff, landing or taxi operations would result due to the proposed project.

Potentially noise-sensitive land use in the immediate vicinity of the site consists of occupied residences. Noise from construction activities and construction equipment traffic would be minor but noticeable to adjacent residences located to the east and south. This impact would occur for short time periods during specific portions of the construction schedule. No significant noise impacts are expected.

6.1.8 Aesthetics

The visual quality of the existing environment is typical of a small airport located within a transitional area between small, suburban residential and rural settings. There is a mixed architectural style but most buildings are low-profile wood or brick single-family structures that were built during the 1950s and 1960s.

The existing NWS WFO was built in 1967 and has a brick base with metal and wood siding. It is located within 30 ft of North Main Street. The hangar building was built in the early 1940s and is a wood structure with a slightly arched roof. The hangar is approximately 200 ft west of North Main Street. The hangar is in poor condition and will be removed by the city of Caribou once a new hangar is completed to the north, across the runway. The 1,600 sq. ft brick WFO building will be removed by NOAA. Both of these structures will be replaced by a new single-story WFO.

While distant views to the north and west present a pastoral setting, no unique scenic resources are present. The new structure is expected to be congruent with its surroundings. No long-term aesthetic impacts would result.

6.1.9 Socioeconomics

The city of Caribou is located at the center of Aroostook County, Maine's largest and most northern county. Settled in 1842, it is the most northeastern city in the continental United States.

The city has a population of 9,415 and is serviced by Northern Maine Regional Airport in Presque Isle for commercial carrier air service and Caribou Municipal Airport for non-instrument civil aviation. Per capita income is $10,487 per year, which is slightly higher than the average for Aroostook County (Caribou Development Corporation, 2000).

The county is comprised largely of farming, manufacturing, lumber, recreational and retail businesses. Various businesses and recreational enterprises are particularly dependent upon the NWS and its existing WFO and its radio and in-person weather forecasts and warnings. The proposed increase in NWS employees associated with the proposed project would represent a minor, positive increase in economic activity. No significant impact to the existing socioeconomic setting would result from the proposed project.

6.1.10 Transportation

The proposed project is accessed via North Main Street, approximately one mile north of the city center. North Main Street is a two-lane paved road in good condition. Traffic on the route and connecting roads in the vicinity of the WFO site is generally light. Traffic counts are not available for Main Street; however, this route appears to operate at level-of-service (LOS) A.

The proposed action would eliminate use of the land parcel to access the airport hangar. Workers and visitors to the hangar would use a separate access route from Main Street located 2,000 ft north. NWS staff and visitors to the WFO would generate only a small increase in vehicle trips per day than is currently experienced at the existing NWS facility property, less than 40. An approximately 9,000-sq.-ft paved area currently used by general aviation for temporary aircraft parking and tie-down would be slightly reduced. However, these amenities will also be available in other areas on the airport, specifically near the proposed hangar location to the north. No effect on the operation or volume of general aviation aircraft use would result.

Road construction associated with the proposed action involves the installation of a 100-ft-long driveway connecting the new parking area to Main Street. A barrier will be installed to separate taxiways used by general aviation from public parking and traffic throughways. No other road construction or traffic control infrastructure is required. No alteration of traffic patterns will result.

No adverse effects on traffic conditions are expected to result from the proposed action.

6.1.11 Public Services

The following public services are required for the proposed facilities and the NWS employees.

- Fire protection
- Police protection
- Schools
- Hospitals
- Sanitary sewage

- Water
- Electrical power
- Telephone service
- Solid waste disposal
- Snow plow and road maintenance.

The existing and proposed WFO sites are separated by about 200 ft. The number of workers employed by the NWS will increase from 17 to approximately 22. Because the NWS will essentially occupy the same property and involve only a modest increase in NWS employees, additional demand on these public services would not be significant.

Under the Site Design Review Ordinance of the city of Caribou, construction of a non-residential building over 6,000 sq. ft would require a conformity review per Section 13-301 (City of Caribou, n.d.). Under the Public Buildings Amendments Act, NOAA shall provide courtesy review of project plans to the local government and comply with local zoning and building codes to the extent practicable; however, local permits do not need to be obtained.

6.1.12 Recreational Resources

Hiking, hunting, snowmobiling, and skiing are the key outdoor recreational activities in this region. Other than aviation and aviation-related activities, there are no established recreational activities that occur in the immediate project area. The proposed project would not significantly affect these or any other recreational opportunities.

6.1.13 Cultural Resources

Based on the developed condition of the project area for airport operations and infrastructure, and the thin layer of till present until bedrock, no archaeological resources associated with early human occupation of the area is expected to be present at or near the project area.

The city of Caribou is planning to remove their existing hangar. The proposed WFO building and parking area would be located in this general area. The existing hangar was built in the early 1940s, replacing an original hangar structure that burned down immediately prior to that time. The original hangar, built by four business partners from Caribou, was used for airplane storage and repair which facilitated the establishment of charter service and flight instruction at Caribou Municipal Airport, the state's first municipal airport. The original hangar was built sometime after the partners obtained their lease in 1929 and before the dissolution of their company in the late 1930s.

Based on a September 1995 facilities report prepared for the city of Caribou, the current hangar appears to have been built over the original hangar foundation, and has since been altered, covered, patched, or left to deteriorate; some portions were built without a foundation (North Peak Architecture, 1995).

The 5,800 sq. ft hangar, shown in Figure 7, is partitioned into sections containing a:

50-ft × 60-ft main aircraft storage and repair area with arched roof

20-ft × 60-ft workshop (immediately south) with flat roof

20-ft × 72-ft office, waiting room, and bathrooms (immediately north), and

12-ft × 12-ft (former) boiler room (near the northwest corner).

The hangar roof is supported on 13-ft high internal walls with 2-ft × 4-ft wood studs spaced every two feet apart. There is no structural sheathing to provide lateral support. Exterior bearing walls are similar with non-structural asphalt impregnated fiberboard sheathing. The sills and stud bottoms are water damaged and rotten in many areas. The west wall has been pulled away from adjoining walls. The roof itself is double-covered "roll roofing" that has been repeatedly patched. A block chimney on the north side is in poor condition and a possible hazard. The side shingles are made of asbestos containing materials, rotted wood, and masonite lap siding near ground level. The boiler room also contains wallboard and ceiling materials containing asbestos.

Because of its deteriorated condition, the hangar structure is not expected to be eligible for nomination to the National Register of Historic Places. The Maine State Historic Preservation Officer has reviewed the proposed project and has determined that no historic properties (historic, architectural, or archaeological) will be affected (Earle G. Shettleworth, Jr., personal communication, October 1999; also see Appendix).

6.1.14 Hazardous Materials

Between September 1999 and March 2000, a Phase I Environmental Due Diligence Assessment (EDDA) was completed by County Environmental Engineering, Inc., for the subject property. The Phase I EDDA was prepared in accordance with American Society for Testing and Materials (ASTM) Standard E 1527-97. The purpose of the study was to identify recognized environment conditions associated with the presence or likely presence of any hazardous substances or petroleum products released into the environment at the subject property. A review of prior databases, reports and surveys was performed and an inspection of the property conducted to confirm the current conditions. No soil or building material sampling was performed during the Phase I-level EDDA. A summary of conditions and key findings are as follows:

Three former USTs containing aviation gasoline were removed from the north of the hangar building in September 1992. A hole was found in a 4,500-gallon tank and contaminated soil was confirmed at the site. Per Maine Department of Environmental Protection (DEP) guidelines, approximately 144 cubic yards of contaminated soil were removed and landspread on the northwest portion of the airport. Three off-airport water wells and one on-airport water well were sampled for laboratory testing. Only the lone on-airport water well, at 210 ppb (parts per billion), contained petroleum concentrations above the 50 ppb drinking water standard. The only actions required by the Maine DEP was to discontinue use of the well for human consumption (municipal water service is available within 500 ft of the hangar building). These three tanks were later replaced by a single,

10,000-gallon, double-walled UST. This tank was removed in October 1999 and re-installed at the location of a new hangar building under construction on the airport approximately 2,000 ft north.

Records indicate that a former 500-gallon UST within the subject property was removed from a location south of the WFO building. Oil-contaminated soil was found in the excavation having concentrations above the Maine DEP notification level of 100 parts per million (ppm) (County Environmental Engineering, Inc., 1999). The Maine DEP was contacted and the samples tested. Since the UST foundation was on bedrock, no further soil remediation was required. Previously documented groundwater contamination obviated the need for further investigation or remediation of groundwater conditions. The tank was replaced with a 275-gallon aboveground storage tank (AST) currently on the site.

An active on-site septic system and contaminated water well is present and serves the airport hangar building within the subject property. For future development of the subject property, the septic system must be emptied and removed per Maine Subsurface Waste Water Disposal Rules at 144A CMR 241. For the proposed project, the new WFO must be connected to the Caribou Utilities District municipal sewer and water systems located beneath North Main Street. The existing on-site water well should be sealed using practices currently accepted by the water well industry in order to comply with Maine Well Drillers and Pump Installers Rules at 144A CMR 232 (County Environmental Engineering, Inc., 1999).

Asbestos containing material (ACM) and lead-based paint (LBP) are not recognized environmental conditions according to ASTM Standard E 1527-997. However, ACM and LBP are likely to be present in any building constructed prior to 1978. An asbestos inspection by the city of Caribou was completed at the hangar building in the fall of 1999. It found that five suspect building materials did contain asbestos: black tar roofing material, gray transite exterior siding, gray insulation pipe covering, gray transite boiler room wall board, and gray insulation boiler covering. The City intends to conduct proper disposal of ACMs once the hangar building is vacated (Richard Mattila, personal communication, September 1999). No existing information is available regarding LBP in the hangar, nor whether ASMs or LBPs are present in the existing WFO building. An inspection by a Maine-license professional would be required to determine whether these materials are present. This Phase II-level EDDA work would lead to proper removal of confirmed ACM and LBP, decreasing the property owner's and occupant's risk of liability for human exposure to these materials (County Environmental Engineering, Inc., 1999).

One active AST containing diesel fuel is located on a concrete pad (with steel containment) east of the emergency generator building. Also, each of the two main buildings (hangar and WFO) contain one AST for storing #2 fuel oil. The AST in the hangar building shows no sign of prior release; the AST in the WFO basement shows minor oil staining. This release is most likely a loose fitting and should be corrected (County Environmental Engineering, Inc., 1999). Various drums and containers that are also present in the hangar building appear to be in good condition and apparently handled in an appropriate manner. The only evidence of a release was minor oil staining on the concrete floor beneath the air compressor. Some equipment maintenance and cleaning

chemicals are located in the WFO basement, but no evidence of a release or improper handling was observed (County Environmental Engineering, Inc., 1999).

Provided that existing septic system, water well, and fuel/oil containment vessels are properly removed, no significant environment effects due to releases associated with the proposed project are expected to result. Excavation and use of the property as proposed is not expected to represent a threat to persons or property at or near the project area. A low level of risk of liability exists provided that the recommended activities contained in the Phase I EDDA are followed. These activities will enable the City and NOAA to significantly reduce the risk of liability under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The airport does not have a Spill Prevention, Control and Countermeasures (SPCC) plan because it has never had over 42,000 gallons of underground storage or over 1,320 gallons of aboveground storage.

6.2 SUMMARY OF ENVIRONMENTAL EFFECTS

The long-term environmental effects expected are:

- Removal of two main structures, the existing WFO and hangar buildings (including ACMs and possibly LBPs)
- Removal of aircraft parking area between the existing WFO and hangar
- Removal of underground septic system and leachfield
- Slight increase in vehicle traffic.

Potential short-term effects are as follows:

- Soil erosion and sedimentation during the construction period
- Dust created during the construction period
- Construction traffic and noise
- Noise and diesel exhaust generated by construction equipment.

None of these effects is considered significant. Methods to mitigate these impacts are listed below.

6.3 METHODS TO MITIGATE IMPACTS

To limit the effects of short-term construction-related traffic, the WFO construction period should be kept to a minimum. To control noise, work should be performed during normal working hours, and equipment should be shut off when not in use.

Construction activities should include temporary erosion control measures, such as silt fences, and by proper restoration of the site after construction is completed. If necessary, dust control procedures, such as periodic watering, should be used to minimize the impact on local air quality.

On-site water wells should be sealed and capped. The on-site septic system should be emptied and removed. The existing WFO should be assessed for ACMs and LBP. Any such materials should be properly disposed of using professionally accepted techniques.

Should NOAA decide to become the owner of the subject property, a Phase II EDDA should be conducted in accordance with NOAA requirements for real property environmental transfers.

7 CONCLUSION

Implementation of the proposed action does not have the potential to cause significant environmental impacts. Therefore, an EIS addressing this action is not necessary at this time. A Finding of No Significant Impact (FONSI) is recommended for the proposed action.

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8 LEAD AGENCY

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The draft EA was prepared for NOAA by SRI International. Comments regarding the content of the draft EA may be sent to:

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9 BIBLIOGRAPHY

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10 PERSONS CONTACTED

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APPENDIX

Correspondence and Background Information

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DEPARTMENT OF CONSERVATION
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93 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0093

Recv'd
AUG 27 1999

ANGUS S. KING, JR.
GOVERNOR

RONALD B. LOVAGLIO
COMMISSIONER

August 24, 1999

John Chamberlain
SRI International
333 Ravenswood Avenue
Menlo Park, CA 94025

Re: Rare and exemplary botanical features, Weather Forecast Office, Caribou, Maine

Dear Mr. Chamberlain:

I have searched the Natural Areas Division's Biological and Conservation Data System files in response to your request of August 12, 1999 for information on the presence of rare or unique botanical features documented from the vicinity of the project site in the town of Caribou, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features

NATURAL RESOURCES INFORMATION AND MAPPING CENTER
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with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Division cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Natural Areas Division is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Division welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Division are to be published in any form, the Division should be informed at the outset and credited as the source.

The Natural Areas Division has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $75.00 for our services.

Thank you for using the Natural Areas Division in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Division or about rare or unique botanical features on this site.

Sincerely,

Emily M. Chase

Emily M. Chase
Information Specialist

Enclosures

Rare or Exemplary Botanical Features in the Project Vicinity

Documented within four miles of the proposed Weather Forecast Office, Caribou.

Scientific Name Common Name	Last Seen	State Rarity	Global Rarity	State Legal Status	Federal Legal Status	Habitat Description
AMELANCHIER SANGUINEA VAR GASPI GASPE SHADBUSH	1944	S2	G5TU	SC		Open woods, rocky slopes, riverbanks.
ASARUM CANADENSE WILD GINGER	1982	S1S2	G5	T		Rich woods and in the vicinity of shaded calcareous ledges.
ASTRAGALUS EUCOSMUS ELEGANT MILK-VETCH	1941	SX	G5	PE		Calcareous gravel and ledges
CYPRIPEDIUM REGINAE SHOWY LADY'S-SLIPPER	1880	S2S3	G4	T		Circumneutral peatlands (often at edges) or sunlit openings of mossy woods.
POLYGALA SENEGA SENECA SNAKEROOT	1980	S1	G4G5	E		Dry rocky or gravelly, chiefly calcareous areas.
PRENANTHES RACEMOSA GLAUCOUS RATTLESNAKE ROOT	1941	S2	G5	SC		Calcareous riverbanks, shores and damp prairies.
STUCKENIA FILIFORMIS SSP ALPINUS NORTHERN SLENDER PONDWEED	1973	S1	G5T5	T		Alkaline ponds and stream.
THALICTRUM VENULOSUM BOUNDARY MEADOW-RUE	1941	SH	G5	PE		Prairies, thickets, open woods and shores
TRICHOPHORUM CLINTONII CLINTON'S BULRUSH	1941	S2	G4	SC		Dry or springy argillaceous or slaty ledges, gravel or open woods and turfy shores.
TRIOSTEUM AURANTIACUM WILD COFFEE	1982	S1	G5	E		Rich woods and thickets.

Rare or Exemplary Botanical Features in the Project Vicinity

Documented within four miles of the proposed Weather Forecast Office, Caribou.

Scientific Name Common Name	Last Seen	State Rarity	Global Rarity	State Legal Status	Federal Legal Status	Habitat Description
TRISETUM MELICOIDES PURPLE FALSE OATS	1940	S1	G4	E		Ledgy or gravelly shores or cool banks, chiefly in calcareous areas.

STATE RARITY RANKS

S1 Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.

S2 Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

S3 Rare in Maine (on the order of 20-100 occurrences).

S4 Apparently secure in Maine.

S5 Demonstrably secure in Maine.

SH Occurred historically in Maine, and could be rediscovered; not known to have been extirpated.

SU Possibly in peril in Maine, but status uncertain; need more information.

SX Apparently extirpated in Maine (historically occurring species for which habitat no longer exists in Maine).

Note: **State Ranks** determined by the Maine Natural Areas Program.

GLOBAL RARITY RANKS

G1 Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.

G2 Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

G3 Rare in Maine (on the order of 20-100 occurrences).

G4 Apparently secure in Maine.

G5 Demonstrably secure in Maine.

Note: **Global Ranks** determined by The Nature Conservancy.
T indicates subspecies rank, **Q** indicates questionable rank, **HYB** indicates hybrid species.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's endangered and threatened plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

E ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future, or federally listed as Endangered.

T THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

SC SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.

PE POSSIBLY EXTIRPATED; Not known to currently exist in Maine; not field-verified (or documented) in Maine over the past 20 years.

FEDERAL STATUS

LE Listed as Endangered at the national level.

LT Listed as Threatened at the national level.

Please note that species names follow the 1995 *Checklist of the Vascular Plants of Maine*, 3rd revision, Josselyn Botanical Society of Maine, Maine Agricultural and Forest Experiment Station, University of Maine, Bulletin 844.

Where entries appear as binomials, all representatives (subspecies and varieties) of the species are rare in Maine; where names appear as trinomials, only that particular variety or subspecies is rare in Maine, not the species as a whole.

Visit our web site for more information on rare, threatened and endangered species!
http://www.state.me.us/doc/nrimc/mnap/factsheets/mnapfact.htm

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IFW

IFW
Wildlife Division
P.O. Box 447
Ashland, Maine 04732

Phone: 435-3231
FAX:
email:

Wednesday, August 25, 1999

John Chamberlain
Environmental Consultant
SRI International
333 Ravenswood Ave.
Menlo Park, CA 94025

Dear Mr. Chamberlain:

This letter is in response for your request for information on state rare, threatened, or endangered wildlife species in the vicinity of a new Weather Forecast Office building in Caribou. Review of our database shows no known significant wildife habitats or species in the proximity of the proposed project. Based on existing information on this project and our present database on important wildlife habitats we expect no significant wildlife impacts. If you have further questions please call our Ashland Regional Office at (207) 435-3231.

Sincerely,

Arlen Lovewell

Arlen Lovewell
Wildlife Biologist
Maine Department Inland Fish & Wildlife

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Maine Field Office
1033 South Main Street
Old Town, ME 04468
(207) 827-5938

U.S. Department of the Interior 1849•1999

Rec'd SEP 16 1999

To: Mr. John Chamberlain
SRI International
333 Ravenswood Avenue
Menlo Park, CA 94025

September 11, 1999

Thank you for your letter requesting information or recommendations from the U.S. Fish and Wildlife Service. This form provides the Service's response pursuant to Section 7 of the Endangered Species Act (ESA), as amended (16 U.S.C. 1531-1543), and the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667d).

Re: National Weather Service Office/ Caribou / Aroostook
Project Name/Location/County

August 12, 1999
Date of Incoming Letter

99-0048
Log Number

Based on the information currently available to us, no federally-listed species under the jurisdiction of the Service are known to occur in the project area, with the exception of occasional, transient bald eagles (*Haliaeetus leucocephalus*) or peregrine falcons (*Falco peregrinus*). Accordingly, no further action is required under Section 7 of the ESA, unless: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by the identified action.

A list of federally-listed species in Maine is enclosed for your information. If you have any questions, please call Kim Tripp at (207) 827-5938.

Biologist

9-11-99
Date

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FEDERALLY LISTED, PROPOSED, AND SPECIES OF FEDERAL CONCERN IN MAINE (revised July 29, 1999)

Common Name	Scientific Name	Status
FISHES:		
Atlantic salmon	Salmo salar	FSC
Shortnose Sturgeon	Acipenser brevirostrum	E
REPTILES:		
Atlantic ridley turtle*	Lepidochelys kempii	E
Leatherback turtle*	Dermochelys coriacea	E
Loggerhead turtle*	Caretta caretta	T
Blanding's turtle	Emydoidea blandingii	FSC
BIRDS:		
American Peregrine Falcon	Falco peregrinus anatum	E
Bald Eagle	Haliaeetus leucocephalus	T
Bicknell's Thrush	Catharus minimus bicknelli	FSC
Black Tern	Chlidonias niger	FSC
Harlequin Duck	Histrionicus histrionicus	FSC
Loggerhead Shrike	Lanius ludovicianus	FSC
Northern Goshawk	Accipter gentilis	FSC
Piping Plover	Charadrius melodus	T
Roseate Tern	Sterna dougallii dougallii	E
MAMMALS:		
Gray Wolf	Canis lupus	E
Eastern Cougar	Felis concolor couguar	E
Blue Whale*	Balaenoptera musculus	E
Finback Whale*	Balaenoptera physalus	E
Humpback Whale*	Megaptera novaeangliae	E
Right Whale*	Eubalaena spp. (All species)	E
Sei Whale*	Balaenoptera borealis	E
Sperm Whale*	Physeter catodon	E
Eastern Small-Footed Bat	Myotis leibii	FSC
New England Cottontail Rabbit	Sylvilagus transitionalis	FSC
Penobscot Meadow Vole	Microtus pennsylbanicus shattaucki	FSC
Northern Bog Lemming	Synaptomys borealis	FSC
Canadian Lynx	Felis lynx canadensis	P
INVERTEBRATES:		
Brook Floater	Alasmidonta varicosa	FSC
Yellow Lampmussel	Lampsilis cariosa	FSC
Tomah Mayfly	Siphlonisca aerodromia	FSC
Extra Striped Snaketail Dragonfly	Ophiogomphus anomalus	FSC

Common Name	Scientific Name	Status
Midget Snaketail Dragonfly	Ophiogomphus howei	FSC
Clayton's Copper Butterfly	Lycaena dorcas claytoni	FSC
Ceromatic Noctuid Moth	Pyreffera ceromatica	FSC
Regal Fritillary Butterfly	Speyeria idalia	FSC
Chestnut Clearwing Moth	Synanthedon castancae	FSC
Helma's Net-Spinning Caddisfly	Cheumatopsyche helma	FSC
Lateral Bluet Damselfly	Enallagma laterale	FSC
PLANTS:		
Small Whorled Pogonia	Isotria medeoloides	T
Furbish's Lousewort	Pedicularis furbishiae	E
Eastern Prairie Fringed Orchid	Plantanthera leucopehaea	T
Orono Sedge	Carex oronensis	FSC
Variable Sedge	Carex polymorpha	FSC
Hawkweed	Hieracium robinsonii	FSC
Blazingstar	Liatris borealis	FSC
Square-stemmed Monkeyflower	Mimulus rigens colpophilus	FSC
Pondweed	Potamogeton confervoides	FSC
Boott's Rattlesnake Root	Prenanthes boottii	FSC
Long's Bulrush	Scirpus longii	FSC
Gaspe Peninsula Arrow-grass	Triglochin gaspense	FSC

Key:

Status	Definition
E	Endangered: A taxon "in danger of extinction throughout all or a significant portion of its range".
T	Threatened: A taxon "likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
P	Proposed: A taxon proposed for official listing as endangered or threatened.
FSC	Federal species of concern: Species which may or may not be listed in the future (formerly C2 candidate species, or species under consideration for listing for which there is insufficient information to support listing).
*	Principal responsibility for these species is vested with the National Marine Fisheries Service

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

ANGUS S. KING, JR.
GOVERNOR

EARLE G. SHETTLEWORTH, JR.
DIRECTOR

October 19, 1999

John Chamberlain
SRI International
333 Ravenswood Avenue
Menlo Park, California 94025

Project: MHPC #1604 - Caribou Municipal Airport
Location: Caribou, Maine

Dear Mr. Chamberlain:

Thank you for your recent correspondence (received September 21, 1999) to continue consultation with our office on the above referenced project.

Based upon the proposed scope of work for this project and the project location, no additional identification efforts are warranted at this time as there is adequate documentation for a finding on historic properties. Therefore, I find no historic properties [historic, architectural, or archaeological] affected by this project.

Please contact Dana R. Vaillancourt of my staff if you require further assistance in this matter.

Sincerely,

Earle G. Shettleworth, Jr.
State Historic Preservation Officer

EGS/slm

PHONE: (207) 287-2132

FAX: (207) 287-2335